



Ramsar Information Sheet

Published on 27 March 2017

Update version, previously published on : 1 January 2008

Sweden Kvismaren



Designation date	5 December 1974
Site number	24
Coordinates	59°10'26"N 15°22'58"E
Area	837,00 ha

Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

1 - Summary

Summary

The site covers an area once occupied by two freshwater lakes, which were drained during the 1880s. The valley is a mainly a rather flat and fertile agricultural landscape. The wetland is now restored and consists of large wet meadows with grazing cattle, deciduous forests, reeds and open water. The site supports many species of breeding wetland birds and is internationally important for staging geese, cranes, ducks and to some extent also waders. Kvismaren is also an important site for hibernating snakes.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Compiler 1

Name	Michael Andersson, (NFP Jenny Lonnstad)
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2.1.2 - Period of collection of data and information used to compile the RIS

From year	2002
To year	2014

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Kvismaren
Unofficial name (optional)	Kvismaren (lake)

2.1.4 - Changes to the boundaries and area of the Site since its designation or earlier update

(Update) A. Changes to Site boundary	Yes <input checked="" type="radio"/> No <input type="radio"/>
(Update) The boundary has been delineated more accurately	<input checked="" type="checkbox"/>
(Update) The boundary has been extended	<input type="checkbox"/>
(Update) The boundary has been restricted	<input type="checkbox"/>
(Update) B. Changes to Site area	the area has increased
(Update) The Site area has been calculated more accurately	<input checked="" type="checkbox"/>
(Update) The Site has been delineated more accurately	<input checked="" type="checkbox"/>
(Update) The Site area has increased because of a boundary extension	<input type="checkbox"/>
(Update) The Site area has decreased because of a boundary restriction	<input type="checkbox"/>

2.1.5 - Changes to the ecological character of the Site

(Update) 6b i. Has the ecological character of the Ramsar Site (including applicable Criteria) changed since the previous RIS?	Yes (actual)
(Update) Are the changes	Positive <input checked="" type="radio"/> Negative <input type="radio"/> Positive & Negative <input type="radio"/>
(Update) Positive %	50
(Update) No information available	<input type="checkbox"/>
(Update) Changes resulting from causes operating within the existing boundaries?	<input checked="" type="checkbox"/>
(Update) Changes resulting from causes operating beyond the site's boundaries?	<input type="checkbox"/>
(Update) Changes consequent upon site boundary reduction alone (e.g., the exclusion of some wetland types formerly included within the site)?	<input type="checkbox"/>
(Update) Changes consequent upon site boundary increase alone (e.g., the inclusion of different wetland types in the site)?	<input checked="" type="checkbox"/>
(Update) Please describe any changes to the ecological character of the Ramsar Site, including in the application of the Criteria, since the previous RIS for the site.	

During 2005-2015 a restoration project has been performed by the County Administration Board in cooperation with the Municipality of Örebro, the Swedish EPA, and the World Wide Fund for Nature (WWF) and local farmers/landowners, which has improved the wetland habitats and strengthened the performing long-term conservational management. The monitoring of wetland birds has also been improved in cooperation between the County Board and Kvismare Bird Observatory, and the facilities for visitors have been very much improved since 2005. The ecological character of Kvismaren have changed to the better for wetland birds with a more diverse wetland, mostly due to restoration actions and to better grazing and better water regulation within the nature reserve.

The boundary has also been better delineated, in general resulting in that arable land has been excluded, and forest and meadows, some of them wet, and open water have been included.

(Update) Is the change in ecological character negative, human-induced AND a significant change (above the limit of acceptable change) Yes

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image

<1 file(s) uploaded>

Former maps

2.2.2 - General location

a) In which large administrative region does the site lie?

b) What is the nearest town or population centre?

2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries? Yes No

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes No

2.2.4 - Area of the Site

Official area, in hectares (ha):

Area, in hectares (ha) as calculated from GIS boundaries

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Udvardy's Biogeographical Provinces	10 Boreonemoral
Bailey's Ecoregions	240 Marine division
WWF Terrestrial Ecoregions	Sarmatic mixed forest PA0436
Other scheme (provide name below)	Boreonemoral
Freshwater Ecoregions of the World (FEOW)	Ecoregion 406 Northern Baltic drainages
EU biogeographic regionalization	Boreal

Other biogeographic regionalisation scheme

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

- Criterion 1: Representative, rare or unique natural or near-natural wetland types

Hydrological services provided: The site has some importance for water purification.

Other ecosystem services provided: The site has some importance for livestock fodder.

Other reasons: Kvismaren is a representative example of low-land nutrient rich lakes in the EU Boreal region and includes the Natura 2000-habitats 6270 (Fenno-scandian lowland species-rich dry to mesic grasslands), 6430 (Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels) and 91E0 (Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, *Alnion incanae*, *Salicion albae*). It hosts nature types and species of great conservation and educational values.

- Criterion 2 : Rare species and threatened ecological communities

- Criterion 3 : Biological diversity

Justification: The site is important for wetland flora and fauna in the EU Boreal region. The site supports both representative and rare species. The site is important as a breeding and staging, site for wetland birds. The site is also important for reptiles.

- Criterion 4 : Support during critical life cycle stage or in adverse conditions

- Criterion 5 : >20,000 waterbirds

Overall waterbird numbers: >20 000/yr

Start year: 2005



Source of data: The Count Administration Board in cooperation with Kvismare Bird Observatory

- Criterion 6 : >1% waterbird population

- Criterion 8 : Fish spawning grounds, etc.







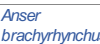



























Justification: A recent DNA-test of roe in a river upstream the Ramsar site shows that *Leuciscus aspius* re-produces there. That part of the river has been an important reproduction site historically. The Ramsar site is therefore a part of a migratory route for the species.








3.2 - Plant species whose presence relates to the international importance of the site

Scientific name	Common name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CTES Appendix I	Other status	Justification
<i>Potamogeton acutifolius</i> 	Sharp-leaved pond weed	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Swedish Red List 2015 (VU)	See text box below the table and under 3.1.
<i>Potamogeton compressus</i> 	Grass-wrack pondweed	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Swedish Red List 2015 (VU)	See text box below the table and under 3.1.

Criterion 2 and 3: For all species, their status in the Swedish red-list and general information for that classification, their distribution etc can be found at <http://artfakta.artdatabanken.se/>. Observation of the species can be found in the Swedish database for observations <http://www.artportalen.se/>.

3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Common name	Species qualifies under criterion			Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence ¹⁾	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7								
Birds																	
CHORDATA/AVES	 <i>Anas clypeata</i>	Northern Shoveler	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Breeding. See textbox below the table.
CHORDATA/AVES	 <i>Anas querquedula</i>	Garganey	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>	Swedish Red List 2015, VU.	See textbox below the table.
CHORDATA/AVES	 <i>Anser albifrons</i>	Greater White-fronted Goose	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Staging. See textbox below the table.
CHORDATA/AVES	 <i>Anser brachyrhynchus</i>	Pink-footed Goose	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Staging. See textbox below the table.
CHORDATA/AVES	 <i>Anser erythropus</i>	Lesser White-fronted Goose	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Swedish Red list 2015, CR.	Staging. See textbox below the table.
CHORDATA/AVES	 <i>Anser fabalis</i>	Bean Goose	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	23000	2005-2015	50	LC 	<input type="checkbox"/>	<input type="checkbox"/>	Swedish Red List 2015, NT.	20-40000 resting. The total population in North-east Europe/North-west Europe is 45 000. See textbox below the table and in 3.1.
CHORDATA/AVES	 <i>Branta leucopsis</i>	Barnacle Goose	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Staging. See textbox below the table.
CHORDATA/AVES	 <i>Chlidonias niger</i>	Black tern	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>	Swedish Red List 2015, VU. EC Birds Directive Annex I.	Breeding. See textbox below the table and in 3.1.
CHORDATA/AVES	 <i>Circus cyaneus</i>	Northern Harrier	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>	Swedish Red List 2015, NT. EC Birds Directive Annex I.	See textbox below the table and in 3.1.
CHORDATA/AVES	 <i>Falco peregrinus</i>	Peregrine Falcon	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Swedish Red List 2015, NT. EC Birds Directive Annex I.	See textbox below the table and in 3.1.
CHORDATA/AVES	 <i>Grus grus</i>	Common Crane	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	15000	2005-2015	6	LC 	<input type="checkbox"/>	<input type="checkbox"/>	EC Birds Directive Annex I.	10-15000 resting. Total population of the "North-west Europe/Iberia & Morocco" is 240 000. See textbox below the table and in 3.1.
CHORDATA/AVES	 <i>Limosa limosa</i>	Black-tailed Godwit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				NT 	<input type="checkbox"/>	<input type="checkbox"/>	Swedish Red List 2015, CR.	See textbox below the table and in 3.1.
CHORDATA/AVES	 <i>Locustella fluviatilis</i>	River Warbler	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>	Swedish Red List 2015, NT.	See textbox below the table and in 3.1.
CHORDATA/AVES	 <i>Philomachus pugnax</i>	Ruff	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>	Swedish Red List 2015, VU. EC Birds Directive Annex I.	Staging site. See textbox below the table and in 3.1.
CHORDATA/AVES	 <i>Podiceps auritus</i>	Horned Grebe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>	EC Birds Directive Annex I.	See textbox below the table and in 3.1.
CHORDATA/AVES	 <i>Porzana porzana</i>	Spotted Crane	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>	Swedish Red List 2015, VU.	See textbox below the table and in 3.1.
CHORDATA/AVES	 <i>Remiz pendulinus</i>	Eurasian Penduline Tit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>	Swedish Red List 2015, EN.	See textbox below the table and in 3.1.
Fish, Mollusc and Crustacea																	

Phylum	Scientific name	Common name	Species qualifies under criterion			Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7								
CHORDATA/ ACTINOPTERYGII	 <i>Leuciscus aspius</i>	Aral asp	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>	EC Habitats Directive Annex II	The site supports a migratory route to a place for reproduction. See textbox below the table and in section 3.1.
Others																	
CHORDATA/ MAMMALIA	 <i>Lutra lutra</i>	European Otter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				NT 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Swedish Red List 2015, NT. EC Habitats Directive Annex II.	The site has a function as a centre for dispersal of Otter in the region. See text box below the table and in 3.1
CHORDATA/ REPTILIA	 <i>Natrix natrix</i>	European Grass snake	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		The dry hill in the centre is a key hibernating place for snakes in the surrounding wetter areas. See textbox below the table and in 3.1.
CHORDATA/ REPTILIA	 <i>Vipera berus</i>	European adder	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		The dry hill in the centre is a key hibernating place for snakes in the surrounding wetter areas. See textbox below the table and in 3.1

1) Percentage of the total biogeographic population at the site

Criterion 2: For all species, their status in the Swedish red-list and general information for that classification, their distribution etc can be found at <http://artfakta.artdatabanken.se/>.

Criteria 2, 3, 4, 5, 6: Observation of the species can be found in the Swedish database for observations <http://www.artportalen.se/>.

3.4 - Ecological communities whose presence relates to the international importance of the site

Name of ecological community	Community qualifies under Criterion 2?	Description	Justification
Hydrophilous tall herb fringe communities (EU-code 6430).	<input checked="" type="checkbox"/>	Wet and nitrophilous tall herb edge communities, along water courses and woodland borders.	The conservation status in the Swedish part of the EU boreal region is bad.
Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (EU-code 91E0).	<input checked="" type="checkbox"/>	Riparian forests of <i>Fraxinus excelsior</i> and <i>Alnus glutinosa</i> . Occur on heavy soils (generally rich in alluvial deposits) periodically inundated by the annual rise of the river. The herbaceous layer invariably includes many large-grow species.	The conservation status in the Swedish part of the EU boreal region is unfavourable.

4 - What is the Site like? (Ecological character description)

4.1 - Ecological character

The two lakes are shallow, have open water areas in the middle and broad zones of reeds. The lakes are surrounded by meadows, both wet and dry, grazed by cattle. The partly restored wetland constitutes a refuge for birds and other animal species depending on wet grassland or shallow waters in a region otherwise dominated by agricultural practises.

The site supports bird species which are nationally red-listed and/or included in Annex 1 of the EU Bird Directive.

4.2 - What wetland type(s) are in the site?

Inland wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
Fresh water > Flowing water >> M: Permanent rivers/ streams/ creeks		3		Representative
Fresh water > Lakes and pools >> Tp: Permanent freshwater marshes/ pools		1		Representative

Human-made wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
4: Seasonally flooded agricultural land		2		Representative
9: Canals and drainage channels or ditches		4		Representative

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

Scientific name	Common name	Position in range / endemism / other
<i>Acorus calamus</i>	Sweet-flag	
<i>Hippuris vulgaris</i>	Mare's tail	
<i>Stratiotes aloides</i>	Water-soldier	
<i>Typha angustifolia</i>	Lesser bulrush	

4.3.2 - Animal species

<no data available>

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
D: Moist Mid-Latitude climate with cold winters	Dfb: Humid continental (Humid with severe winter, no dry season, warm summer)

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres)

a) Maximum elevation above sea level (in metres)

Entire river basin

- Upper part of river basin
- Middle part of river basin
- Lower part of river basin
- Mbre than one river basin
- Not in river basin
- Coastal

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.

The site is situated in the lower parts of the "Kvismaren kanal" river basin which is a sub-basin for the large lake Mälaren catchment area. The site is in the upper parts of the lake Mälaren catchment area.

4.4.3 - Soil

Mneral

(Update) Changes at RIS update No change Increase Decrease Unknown

Organic

(Update) Changes at RIS update No change Increase Decrease Unknown

No available information

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes No

Please provide further information on the soil (optional)

The valley is built up by thick layers of clay covered by organic soils. Before lowering the water level of the large Lake Hjälmaren (downstream the site), the areas covered with reeds in East and West Lake Kvismaren, were open water. Bedrock is mainly of granite.

4.4.4 - Water regime

Water permanence

Presence?	Changes at RIS update
Usually permanent water present	
Usually seasonal, ephemeral or intermittent water present	

Source of water that maintains character of the site

Presence?	Predominant water source	Changes at RIS update
Water inputs from surface water	<input type="checkbox"/>	No change

Water destination

Presence?	Changes at RIS update
To downstream catchment	No change

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology.

The valley is a rather flat and fertile agricultural landscape. Formerly there were two lakes here but following a comprehensive lowering of the water level during the 1880s the lakes dried out completely. The hydrology of the region is subject to strict regulation by canals and embankments in order to protect the agricultural land from flooding. However, small areas have been isolated by embankments in order to raise water levels to benefit wildlife. Great efforts have been made to restore some of the earlier water regime which is beneficial to the biological diversity in general, but also promotes the value of wetlands as a nutrient sink.

4.4.5 - Sediment regime

Sediment regime unknown

<no data available>

4.4.6 - Water pH

Circumneutral (pH: 5.5-7.4)

(Update) Changes at RIS update No change Increase Decrease Unknown

Unknown

4.4.7 - Water salinity

Fresh (<0.5 g/l)

(Update) Changes at RIS update No change Increase Decrease Unknown

Unknown

4.4.8 - Dissolved or suspended nutrients in water

Unknown

Please provide further information on dissolved or suspended nutrients (optional):

The intensive use of fertilizers in the surrounding agricultural areas is of some concern. Total soluble nitrogen in the Kvismare Canal is 3310 micrograms/litre (mean value from 6 samples during 2014; sampling made in the canal east of the nature reserve).

(ECD) Dissolved organic carbon	13,9 mg/l (mean value from 6 samples during 2014; sampling made in the Kvismare canal east of the nature reserve)
(ECD) Water conductivity	51 mS/m (mean value from 6 samples during 2014; sampling made in the Kvismare canal east of the nature reserve)

4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the site itself: i) broadly similar ii) significantly different

- Surrounding area has greater urbanisation or development
- Surrounding area has higher human population density
- Surrounding area has more intensive agricultural use
- Surrounding area has significantly different land cover or habitat types

Please describe other ways in which the surrounding area is different:

The intensive use of fertilizers and pesticides in the surrounding agricultural areas is of some concern. There are also current discussions about the possibility to establish wind power stations in the surroundings. Special attention, in cooperation with the landowners, is paid to minimise the impact on crops caused by high concentrations of cranes and geese.

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Wetland non-food products	Livestock fodder	Low

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Pollution control and detoxification	Water purification/waste treatment or dilution	Medium

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Nature observation and nature-based tourism	High
Recreation and tourism	Picnics, outings, touring	Medium
Spiritual and inspirational	Cultural heritage (historical and archaeological)	Low
Scientific and educational	Educational activities and opportunities	Medium
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	Medium
Scientific and educational	Major scientific study site	Medium
Scientific and educational	Long-term monitoring site	High

Other ecosystem service(s) not included above:

The social value of the site is meant to increase along with the restoration measures. One aspect of the current restoration project is to attract more people to the site, which could also be beneficial for the local people from economic point of view.

Within the site:

Outside the site:

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes No Unknown

4.5.2 - Social and cultural values

- i) the site provides a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland

Description if applicable

From 1877 to 1887 Lake Hjälmarén and Lake Kvismaren were lowered to gain more land for agriculture. Lake Kvismaren was lowered some 1.5 m and most of the lakes were dried out. Kvismare canal was built to facilitate the lowering, and within a couple of years the former lake bottoms were covered with reeds. Several thousands of hectares of wet meadows surrounding the lakes were turned into agricultural areas, in all more than 17 000 hectares were effected.

A restoration of part of the overgrown lake bottoms started in the early seventies, starting with the eastern part of Lake Fågelsjön. In 1981-1982 Lake Rysjön was restored and some years later also the western part of Fågelsjön. The restored lakes are monitored and maintained continuously, e. g. by regulating the water level. In 1997 a second restoration project was initiated in Rysjön and 2006 – 2008 additional restoration measures have been carried out.

Grazing of wetlands and shore meadows is another important part of the conservation work at Kvismaren. Local areas such as Hammarmaden as well as Nyängen and Fiskingemaden constitute the main areas for grazing.

- ii) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland

Description if applicable

In the grazed areas traces of the old farming landscape can be found as foundations, earth cellars, stone walls and cairns. This creates a lot of microhabitats in the grassland and supports fauna in need of shelter or hiding.

- iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples

Description if applicable

The site is dependent on farmers mowing the grasslands and/or having cattle grazing the grasslands at the site.

- iv) relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland

4.6 - Ecological processes

<no data available>

5 - How is the Site managed? (Conservation and management)

5.1 - Land tenure and responsibilities (Managers)

5.1.1 - Land tenure/ownership

Public ownership

Category	Within the Ramsar Site	In the surrounding area
National/Federal government	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Private ownership

Category	Within the Ramsar Site	In the surrounding area
Other types of private/individual owner(s)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Provide further information on the land tenure / ownership regime (optional):

Most of the site (more than 90 per cent) is privately owned, one smaller area is state-owned.

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

The responsibility for the management: Länsstyrelsen i Örebro län/Örebro County Administrative Board.
The ones doing the management: Örebro municipality in cooperation with Örebro County Administration Board, the land-owners and the association "Kvismare fågelstation".

Provide the name and title of the person or people with responsibility for the wetland:

Kontaktperson för Ramsarområden Örebro län/Contact Ramsar sites Örebro County, Johan Wretenberg

Postal address:

Länsstyrelsen i Örebro län, S-701 86 Örebro, Sweden/
Örebro County Administrative Board, S-701 86 Örebro, Sweden

E-mail address:

orebro@lansstyrelsen.se

5.2 - Ecological character threats and responses (Management)

5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Unspecified development	Low impact	High impact	<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change
Housing and urban areas	Low impact	Medium impact	<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Drainage	Low impact	Low impact	<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	increase

Energy production and mining

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Renewable energy	Low impact	High impact	<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	increase

Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Utility and service lines (e.g., pipelines)	Low impact	Low impact	<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Hunting and collecting terrestrial animals	Low impact	Medium impact	<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Unspecified/others	High impact	Low impact	<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Agricultural and forestry effluents	Low impact	High impact	<input checked="" type="checkbox"/>	unknown	<input checked="" type="checkbox"/>	increase

Please describe any other threats (optional):

Potential threats are increased drainage and cultivation, as well as a reduced level of grazing, although great efforts are made to encourage grazing. Another potential threat is the overgrowing of open waters, partly depending from high nitrogen contents in agricultural run-off water. Birds such as Hen harrier (*Circus cyaneus*), Black-tailed godwit (*Limosa limosa*), Short-eared owl (*Asio flammeus*) and Long-eared owl (*A. otus*) used to breed regularly in the 1950s - early 1960s but are now rarely seen in the region.

The intensive use of fertilizers and pesticides in the surrounding agricultural areas is of some concern. There are also current discussions about the possibility to establish wind power plants in the surroundings. Special attention, in cooperation with the landowners, is paid to minimise the impact on crops caused by high concentrations of cranes and geese.

5.2.2 - Legal conservation status

Regional (international) legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
EU Natura 2000	Kvismaren SE0240058	http://www.lansstyrelsen.se/orebro/SiteCollectionDocuments/sv/djur-och-natur/skyddad-natur/natur-a-2000/SE0240058_Kvismaren.pdf	partly

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
nature reserve	Kvismaren	http://www.lansstyrelsen.se/orebro/Sv/djur-och-natur/skyddad-natur/naturreservat-och-nationalparker/sevarda-naturmiljoer/orebro/kvismaren/Pages/index.aspx	partly
site of national importance for nature conservation	Kvismaren		whole

Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Important Bird Area	Kvismaren	http://datazone.birdlife.org/site/factsheet/kvismaren-iba-sweden	

5.2.3 - IUCN protected areas categories (2008)

- Ia Strict Nature Reserve
- Ib Wilderness Area: protected area managed mainly for wilderness protection
- II National Park: protected area managed mainly for ecosystem protection and recreation
- III Natural Monument: protected area managed mainly for conservation of specific natural features
- IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
- V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation
- VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Implemented

Habitat

Measures	Status
Hydrology management/restoration	Implemented
Habitat manipulation/enhancement	Implemented

Human Activities

Measures	Status
Livestock management/exclusion (excluding fisheries)	Implemented

Other:

Kvismaren Nature Reserve was established in 1978 but has since been expanded. Restoration measures carried out since 1980 have included the burning of reed and scrub, rotary cultivation, and raising of water levels over an area of 85 ha. In 2006-2008 significant restoration measures were carried out in extensive parts of the site, including refinement of the water regulation devices, transferring forest areas to open areas for cattle grazing, restoring dikes and small canals and the creation of a small wetland designed for the retention of nutrient-rich water. A pond meant as a breeding site for particularly amphibians has been built. Current discussions may lead to a slight enlargement of the existing Nature Reserve in the future to include additional valuable habitats.

5.2.5 - Management planning

Is there a site-specific management plan for the site? Yes

Has a management effectiveness assessment been undertaken for the site? Yes No

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party? Yes No

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site:

The site illustrates well the consequences of large-scale drainage activities and restoration measures afterwards. Conservation education is facilitated through the presence of a bird observatory with 2 observation towers, 1 hide and 2 observation platforms. The area also has a toilet, a grilling place and trails.

In parallel with the restoration measures, significant improvements have been made in relation to the accessibility of the site. These measures include a new parking place, new information signs, trails and toilet, and different measures to facilitate for disabled people to visit and move around in the area, including a bird watching tower designed for handicapped people.

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Yes, there is a plan

5.2.7 - Monitoring implemented or proposed

A non-profit association, "Föreningen Kvismare Fågelstation", runs Kvismare Bird Observatory. Amateur ornithologists and bird enthusiasts carry out most of the work. Since the start in 1961 more than 260 000 birds have been ringed and some 100 different research projects have been or are still carried out at the bird observatory.

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

European Environment Agency. 2003. Europe's environment: the third assessment, p 231. Environmental assessment report No 10. Luxembourg: Office for Official Publications of the European Communities.
Länsstyrelsen i Örebro län, 2015. Romeftersök på några potentiella aspleklokaler i Örebro län 2014. Publ nr 2015:13.

6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

<no file available>

ii. a detailed Ecological Character Description (ECD) (in a national format)

<no file available>

iii. a description of the site in a national or regional wetland inventory

<no file available>

iv. relevant Article 3.2 reports

<no file available>

v. site management plan

<no file available>

vi. other published literature

<1 file(s) uploaded>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Hammarmaden in the nature reserve Kvismaren. (Karin Sund, Örebro County Administrative Board, 2013-09-16)



Fiskingemaden, Kvismaren. (Karin Sund, Örebro County Administrative Board, 2014-09-17)



Fiskinge, Kvismaren. (Karin Sund, Örebro County Administrative Board, 2014-09-17)



View from Öby hill towards Kvismare channel. (Karin Sund, Örebro County Administrative Board, 2015-02-24)



Platform at the north side of Lake Fågelsjön. (Karin Sund, Örebro County Administrative Board, 2015-02-24)



East part of Kvismaren. (Karin Sund, Örebro County Administrative Board, 2009-10-09)



Rysjön, west part of Kvismaren. (Karin Sund, Örebro County Administrative Board, 2013-09-16)



Sörby pasture nearby east Kvismaren. (Karin Sund, Örebro County Administrative Board, 2014-09-25)

6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation 1974-12-05